



14.5 day fetal brain

16.5 day fetal brain

2 day neonatal brain

7 day neonatal brain

NB41 neuroblastoma

Neuro 2A neuroblastoma

muscle

yeast tRNA



FIG. 1

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FIG. 2

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GDF-7 GGGGGAGRGHGRGRSRCSRKSLHVDF-KELGWDDWIIAPLDYEAHYCEGVCDFFPLRSHLEP----

GDF-1 RPRRDAEPVLGGGPGGACRRRLVVSF-REVGHRWVIAPRGFLANYCQGCALPVALSGSGGPP

BMP-2 REKRQAKHKQRKRLKSSCKRHPLYVDF-SDVGWNDWIVAPPGYHAFYCHGECPEPLADHLNS----

BMP-4 KRSPKHHSQARAKKKNKNCRRHSLYVDF-SDVGWNDWIVAPPGYQAFYCHGDCPEPLADHLNS----

Vgr-1 SRGSGSSDYNGSELKTACKKHELHYVSF-QDLGWQDWIIAPKGYAANYCDGECSCFPLNAHMNA----

OP-1 LRMANVAENSSSDQRQACKKHELHYVSF-RDLGWQDWIIAPEGYAAYCEGECFPLNSYMNAAAA

BMP-5 SRMSSVGDYNTSEKQACKKHELHYVSF-RDLGWQDWIIAPEGYAAFYCDGECSCFPLNAHMNA----

BMP-3 EQTLKKARRKQWIEPRNCARRYLKVDF-ADIGWSEWII SPKSFDAAYCSCGACQCFMPKSLKPS----

MIS GPGRQRSAGATAADGPCALRELSVDL-----RAERSVLIPETYQANNQGVCGWPQSDRNPRY----

Inhibin α ALRLLQRPPEEPAAHANCHRVALNISF-QELGWERWIVYPPSFIFHYCHGGGLHIPPNLSLPV-

Inhibin β HRRRRRGLECDGKY-NICCKKQFFVSF-KDIGWNDWIIAPSGYHANYCEGECPSHIAGTSGSSL-

Inhibin β HRI RKRGLGCDGRT-NLCRCQQFFIDF-RLIGWNDWIIAP TGYGYNYCEGSCPAYLAGVPGSAS-

TGF- β 1 HRRALDTNYCFSSSTEKNCCVRQLYIDFRKDLGWK-WIHEPKGYHANFCLGRCPIWSLD-----

TGF- β 2 KKRALDAAYCFRNVDNCCLRPLYIDFRDLGWK-WIHEPKGYANFAGACQPYLWSSD-----

TGF- β 3 KKRALDTNYCFRNLEENCCVRPLYIDFRQDLGWK-WVHEPKGYANFOSGPGPYLRSAD-----

GDF-7 -TNHAI IQTLNS--MAPDAAPASCCV--PARLSPISILYI-DAANNVVYKQYEDMVVEACGGCR

GDF-1 ALNHAVLRALMHA--AAPGAADLPCCV--PARLSPISVLFF-DNSDNVVL RQYEDMVVDECGCR

BMP-2 -TNHAI VQTLVNS---VNSKIPKACCV--PTELSAISMLYL-DENEKWLKKNYQDMVVEGCGCR

BMP-4 -TNHAI VQTLVNS---VNSSIPKACCV--PTELSAISMLYL-DEYDKVWLKKNYQDMVVEGCGCR

Vgr-1 -TNHAI VQTLVHL--MNPEYVPKPCCA--PTKLN AISVLYF-DDNSNVLKKNYRNMVVRACGCH

OP-1 -TNHAI VQTLVHF--INPETVPKPCCA--PTQLN AISVLYF-DDSSNVLKKNYRNMVVRACGCH

BMP-5 -TNHAI VQTLVHL--MFPDHVPKPCCA--PTKLN AISVLYF-DDSSNVLKKNYRNMVVRACGCH

BMP-3 --NHATI QSI VRA-VGVVPGIPEPCV--PEKMSSLSILFF-DENKNVVLKVPNMTVESACR

MIS -GNHVLLKMQA--RGAALARPCCV--PTAYAGKLLISSEER--ISAHVPMVATECGCR

Inhibin α -PGAPPTPAQPY--LPGAQPCCAALPGTMRPLHVRTSDGGYSFKYETV PNL TQHACACI

Inhibin β A -SFHSTVINHYRMGRGSHFANLKSCCV--PTKLRPM SMLY- DDGQNIKKDIQNMIVEECGCS

Inhibin β B -SFHTAVNQYRMGRGLNPGT-VNSCCI--PTKLSTMSMLYF-DDEYNIVKRDVPNMIVEECGCA

TGF- β 1 -TQYSKVLALYNG--HNPGASAAPCCV--PQALEPLPIVY-VGRPKPV-EQLSNMIVRSCKCS

TGF- β 2 -TQHSRVLSLYNT--LNPEASASPCCV--SQDLEPLTILY-IGKTPKI-EQLSNMIVKSKCS

TGF- β 3 -TTHSTVLGLYNT--LNPEASASPCCV--PQDLEPLTILY-VGRTPKV-EQLSNMIVKSKCS

FIG. 3

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TGF- β 3	33	33	30	32	37	38	38	37	25	36	35	39	38	36	32	25	24	36	100	74	78
TGF- β 2	32	28	31	34	36	35	37	25	34	33	35	37	38	35	32	23	22	37	100	74	78
TGF- β 1	33	26	36	33	35	36	34	23	35	34	34	35	34	34	32	28	23	41	100	74	78
Inhibin β B	35	25	41	37	39	36	42	31	42	42	41	42	42	37	37	25	25	63	100	74	78
Inhibin β A	37	32	42	40	43	41	38	30	42	42	41	42	43	43	36	24	26	100	74	78	
Inhibin α	23	20	25	24	27	26	26	27	22	22	25	24	24	24	29	18	100	-	-	-	
MIS	34	20	22	27	26	25	31	21	27	27	24	27	24	24	30	100	-	-	-	-	
BMP-3	42	34	42	47	46	46	38	29	48	47	44	42	43	100	-	-	-	-	-	-	
BMP-5	46	55	50	52	54	52	42	31	61	59	91	88	100	-	-	-	-	-	-	-	
OP-1	47	52	50	51	53	53	42	30	60	58	87	100	88	-	-	-	-	-	-	-	
Vgr-1	46	55	53	51	53	52	45	31	61	60	100	87	100	-	-	-	-	-	-	-	
BMP-4	43	51	50	57	56	57	38	34	92	100	-	-	-	-	-	-	-	-	-	-	
BMP-2	42	52	53	57	57	57	41	33	100	92	-	-	-	-	-	-	-	-	-	-	
GDF-9	27	32	33	33	34	33	27	100	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-8	35	31	41	37	38	37	100	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-7	48	48	46	80	80	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-6	44	51	49	86	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-5	46	47	49	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-3	50	42	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-2	33	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-1	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-1	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-2	33	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-3	50	42	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-4	46	47	49	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-5	46	47	49	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-6	44	51	49	86	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-7	48	48	46	80	80	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-8	48	48	46	80	80	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GDF-9	27	32	33	33	34	33	27	100	-	-	-	-	-	-	-	-	-	-	-	-	
BMP-2	42	52	53	57	57	57	41	33	100	92	-	-	-	-	-	-	-	-	-	-	
BMP-4	43	51	50	57	56	57	38	34	92	100	-	-	-	-	-	-	-	-	-	-	
Vgr-1	46	55	53	51	53	52	45	31	61	60	100	87	100	-	-	-	-	-	-	-	
OP-1	47	52	50	51	53	53	42	30	60	58	87	100	88	-	-	-	-	-	-	-	
BMP-5	46	55	50	52	54	52	42	31	61	59	91	88	100	-	-	-	-	-	-	-	
BMP-3	42	34	42	47	46	46	38	29	48	47	44	42	43	100	-	-	-	-	-	-	
MIS	34	20	22	27	26	25	31	21	27	27	24	27	24	24	30	100	-	-	-	-	
Inhibin α	23	20	25	24	27	26	26	27	22	22	25	24	24	24	29	18	100	-	-	-	
Inhibin β A	37	32	42	40	43	41	38	30	42	42	41	42	43	43	36	24	26	100	74	78	
Inhibin β B	35	25	41	37	39	36	42	31	42	42	41	42	42	37	37	25	25	63	100	74	78
TGF- β 1	33	26	36	33	35	36	34	23	35	34	34	35	34	34	32	28	23	41	100	74	78
TGF- β 2	32	28	31	34	36	35	37	25	34	33	35	37	38	35	32	23	22	37	100	74	78
TGF- β 3	33	30	32	37	38	38	37	25	36	35	39	38	36	32	25	24	36	100	74	78	

FIG. 4

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